Message

From: Goessel, Kathryn M -FS [kathryn.goessel@usda.gov]
Sent: 8/27/2019 9:10:27 PM
To: Clabaugh, Charles D. [clabaugh.charles@epa.gov]
CC: Aaron.Scheff@deq.idaho.gov; Hood, Lynne [Hood.Lynne@epa.gov]; Baldrige, Anne [Anne.Baldrige@aecom.com]; Porter, Valerie [valerie.porter@aecom.com]; Leeds, Todd - FS [todd.leeds@usda.gov]; Goessel, Kathryn M -FS [kathryn.goessel@usda.gov]
Subject: RE: SGP - FW: TSF consolidation modeling
Attachments: DEQ Negotiated Rulemaking - Ore Processing by Cyanidation, Docket No. 58-0113-1901 - MEETING RESCHEDULED AGAIN / NEXT MEETING OCTOBER 16, 2019

Thanks Don – just so you are aware, those rules may change by the FEIS. I thought I had seen that report (I think it's marked CONFIDENTIAL?)

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From: Clabaugh, Charles D. [mailto:clabaugh.charles@epa.gov]
Sent: Tuesday, August 27, 2019 2:23 PM
To: Goessel, Kathryn M -FS <kathryn.goessel@usda.gov>
Cc: Aaron.Scheff@deq.idaho.gov; Hood, Lynne <Hood.Lynne@epa.gov>; Baldrige, Anne <Anne.Baldrige@aecom.com>; Porter, Valerie <valerie.porter@aecom.com>; Leeds, Todd - FS <todd.leeds@usda.gov>
Subject: RE: SGP - FW: TSF consolidation modeling

Hi Piper

Thanks for the rule book; it looks like the State regulations provide DEQ with plenty of discretion. I have done more than my share of work with liners and leachate collection systems and would welcome the opportunity to discuss the issues with the PRO suggested design. Section 8.3 of Appendix G of the PRO describes the design envisioned by the proponent.

The report that Matt Spansky referenced (Tierra Group. 2018. Stibnite Gold Project Tailings Storage Facility Liner System Overview. Report Prepared for Midas Gold Inc, February 2018) is included as Attachment A to the attached report. An evaluation of an alternative design to the PRO is presented and the Closing section makes statements about "state of the art" liner and leachate collection systems. This statement is subjective and, in my opinion, does not represent the most protective liner design.

Also, the State of the Art has changed. Following up on Heidi's questions to Midas on dry stacking, I have come across a new (2017) dry stacking technology that has proven cost effective and can match the production rates described by the PRO. https://www.flsmidth.com/en-gb/products/filtration/automatic-filter-press If the cost evaluation bears out it may reduce the footprint of the TSF by 50% and alleviate the pressures on the liner drain system that would be imposed by 450-feet of saturated tailings.

Thanks,

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From: Goessel, Kathryn M -FS <kathryn.goessel@usda.gov>
Sent: Tuesday, August 27, 2019 11:19 AM
To: Clabaugh, Charles D. <clabaugh.charles@epa.gov>
Cc: Aaron.Scheff@deq.idaho.gov; Hood, Lynne <Hood.Lynne@epa.gov>; Baldrige, Anne <Anne.Baldrige@aecom.com>; Porter, Valerie <valerie.porter@aecom.com>; Leeds, Todd - FS <todd.leeds@usda.gov>; Goessel, Kathryn M -FS <kathryn.goessel@usda.gov>
Subject: SGP - FW: TSF consolidation modeling
Importance: High

Hi Don – it does not sound like MGII has provided tailings consolidation modeling, although we have heard several implications from them that something along these lines has been done. I wonder if it would be helpful for EPA and DEQ to have a conversation about DEQ's regulatory framework for these types of facilities; given that the FS analysis will be premised on the assumption that the liner system will be compliant with applicable State regulations (which, for the DEIS, are attached). If possible, it may also also be useful to obtain the document referenced by AECOM below.

Please let me know if you think such a discussion amongst the agencies would be useful. If so, would like to include Todd Leeds and, if possible, some AECOM SMEs in the conversation. Thank you!

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From: Baldrige, Anne [mailto:Anne.Baldrige@aecom.com]
Sent: Monday, August 26, 2019 10:28 AM
To: Goessel, Kathryn M -FS <kathryn.goessel@usda.gov>

Cc: Porter, Valerie <valerie.porter@aecom.com>
Subject: RE: TSF consolidation modeling

Hi Piper,

We do not have the tailings consolidation modeling report or any additional information that might be relevant based on our search last week. Matt Spansky thought that the following report might be helpful but we do not have it. It was referenced in the Proposed Action SWWC Modeling Report.

Tierra Group. 2018. Stibnite Gold Project Tailings Storage Facility Liner System Overview. Report Prepared for Midas Gold Inc, February 2018.

Based on the original email from Don Clabaugh, the Idaho Cyanidation Rules might be relevant to the discussion as they require minimizing head on the liner system for protection to the groundwater system. I am not certain what Midas Gold has provided to the IDEQ but the current Idaho cyanidation regulations related to liner systems require a leak detection and collection system for all areas of the facility where process waters may place an average of 12 inches or greater of hydraulic head pressure on the primary liner. The leak detection and collection system must be designed to collect and remove process water at a rate that will prevent a hydraulic head from developing on the secondary containment liner to the level at which it may be reasonably expected to result in discharges through the secondary containment synthetic liner (See IPA 58.01.13.200.03).

Although Midas is not proposing an IDEQ compliant liner system for either the Proposed Action or the Modified Proposed Action, the DEIS will include a mitigation measures that is a liner system that is compliant with the IDEQ regulations. We know that the Idaho regs may change but perhaps a discussion between EPA and the IDEQ on how they enforce that particular provision in the regulations that minimizes head on the liner, and how IDEQ would evaluate Midas Gold's design relative to that provision might be useful.

Thanks,
Anne

From: Porter, Valerie
Sent: Friday, August 23, 2019 9:26 AM
To: Baldrige, Anne <Anne.Baldrige@aecom.com>; Spansky, Matt <matt.spansky@aecom.com>
Cc: Counts, Nathan <Nathan.Counts@aecom.com>; Dworian, Paul <paul.dworian@aecom.com>
Subject: FW: TSF consolidation modeling

Do we have anything additional to provide?

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Sent: Friday, August 23, 2019 11:16 AM
To: Clabaugh, Charles D. <clabaugh.charles@epa.gov>
Cc: Leeds, Todd - FS <todd.leeds@usda.gov>; Dworian, Paul <paul.dworian@aecom.com>; Porter, Valerie <valerie.porter@aecom.com>; Lynne Hood (hood.lynne@epa.gov) <hood.lynne@epa.gov>; Goessel, Kathryn M -FS <kathryn.goessel@usda.gov>
Subject: RE: TSF consolidation modeling

Hi Don – I did a quick search based on some suggestions from Dale yesterday afternoon, but I don't think I found what you are looking for. Not to say we don't have it, so I am copying AECOM to see if they know whether we have tailings consolidation modeling from MGII.

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From: Clabaugh, Charles D. [mailto:clabaugh.charles@epa.gov]
Sent: Friday, August 23, 2019 5:34 AM
To: Hood, Lynne <Hood.Lynne@epa.gov>
Cc: Goessel, Kathryn M -FS <kathryn.goessel@usda.gov>
Subject: TSF consolidation modeling

During our site visit yesterday, Dan with Midas mentioned that they had relied upon a consolidation model to estimate that it would be at least 4 or 5 years after tailings had been placed before tailings had consolidated sufficiently to place the liner and alluvial material over the top and relocated Meadow Creek over the TSF. Piper thinks that we might have an RFI response with a report on the consolidation modeling; if not we can request the report from Midas.

The information in that report (change in density of the tailings as they consolidate) will help us to estimate the total load on the drain liner, which will help us understand the transmissivity of the liner to leachate. With inadequate drainage the head on the liner will be excessive and vapor leakage plus minor leaks through the liner to the underdrain (to the alluvial aquifer beneath the TSF). The report may contain information that will help us to then estimate the total leakage to the alluvial aquifer.

I'll take a look at Appendix G of the PRO to see if there is a reference to the model. If there is an easy way for you to do a search of the RFI database for 'TSF consolidation' it might show up.

Thanks,

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